

No. 725,601.

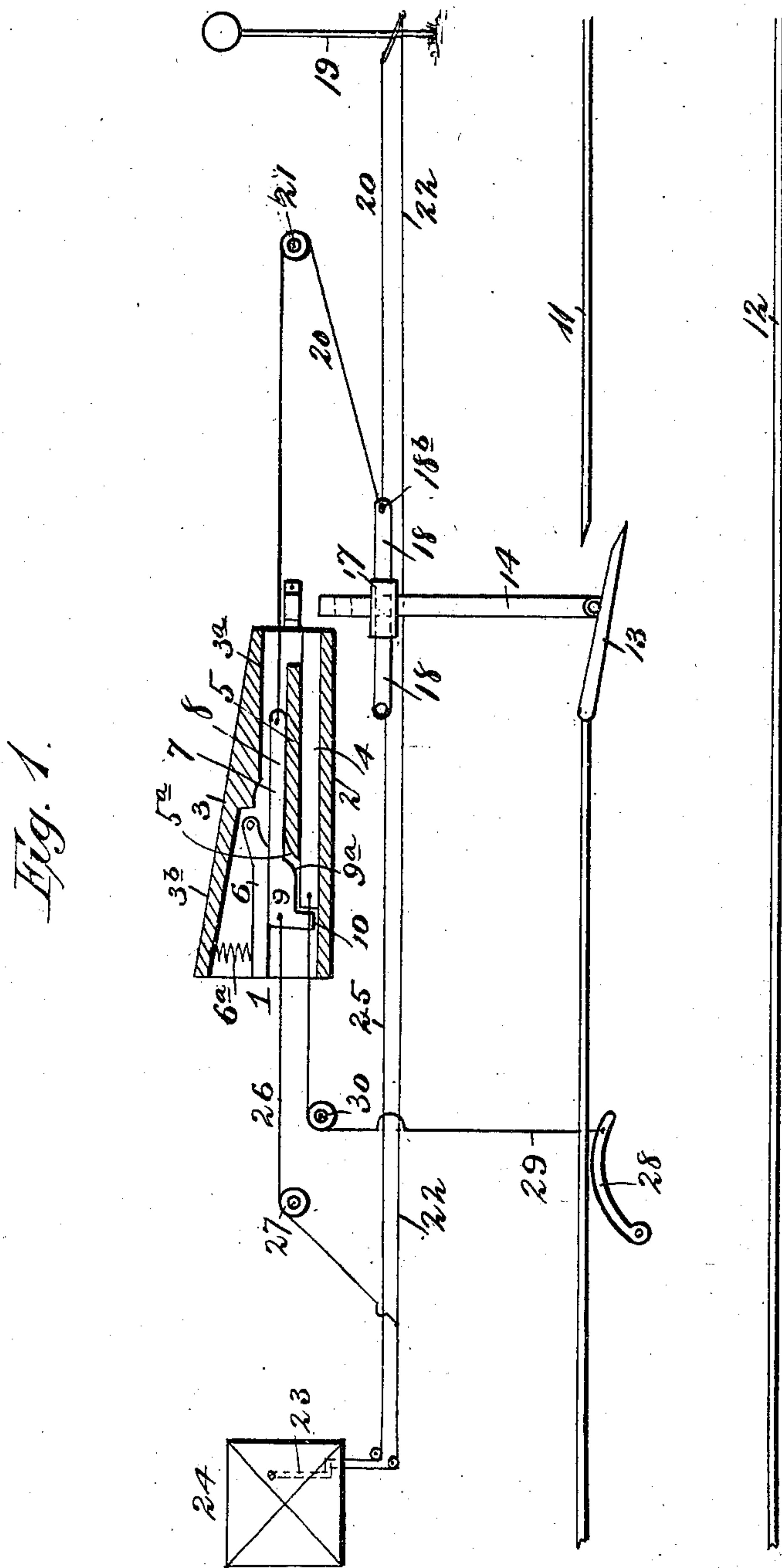
PATENTED APR. 14, 1903.

G. W. SPECKMAN & W. J. POWERS.
INTERLOCKING SWITCH AND SIGNAL.

APPLICATION FILED SEPT. 13, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



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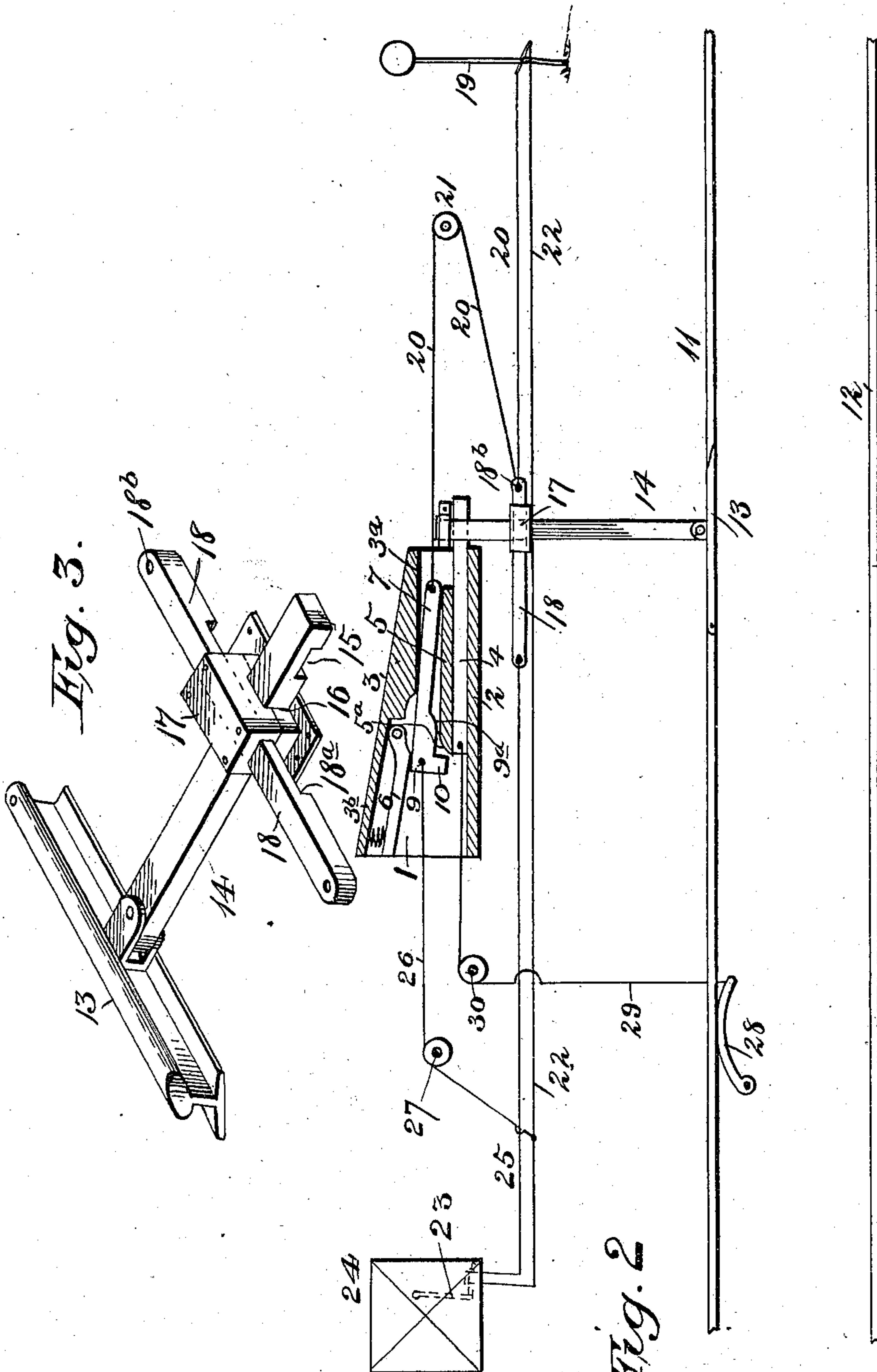
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UNITED STATES PATENT OFFICE.

GEORGE W. SPECKMAN AND WILLIAM J. POWERS, OF COLUMBUS, OHIO.

INTERLOCKING SWITCH AND SIGNAL.

SPECIFICATION forming part of Letters Patent No. 725,601, dated April 14, 1903.

Application filed September 13, 1902. Serial No. 123,292. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. SPECKMAN and WILLIAM J. POWERS, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented new and useful Improvements in Interlocking Switches and Signals, of which the following is a specification.

Our invention relates to interlocking switch and signal devices; and the object of the same is to construct a device of this character which will prevent the towerman from taking the track away from an approaching train after having once given it the "safety" signal.

The simple and novel construction employed by us in carrying out our invention is fully described in this specification and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a plan view of our device open at "danger" and in place alongside of a track. Fig. 2 is a similar view with the device closed at "safety." Fig. 3 is a detail of the locking mechanism.

Like numerals of reference designate like parts in the different views of the drawings.

The numeral 1 designates a base-plate having two flanges 2 and 3 thereon. The flange 2 is straight and serves as a guide for a locking-bar 4, fitting snugly between it and a guide-rib 5, formed integral with the base. The inner side of the flange 3 extends parallel at 3^a to the inner side of the guide-flange 2, but is cut away at 3^b to accommodate a pivoted bar 6, pressed by a spring 6^a, seated on the flange 3. Slidingly mounted between the side 3^a and the guide-rib 5 is a catch-bar 7, having a uniform body 8 and an enlarged head 9, having a nose 10 thereon, which serves as a catch to engage and operate the locking-bar 4. The head 9 is beveled at 9^a to adapt it to be engaged by the beveled end 5^a of the rib 5 to disengage the catch 10 from the lock-bar 4 in opposition to the action of the spring-pressed bar 6. The parts of our device just described are located adjacent to a railroad-track consisting of rails 11 and 12. Connected to the rail 11 and filling a gap therein is a swinging derailer 13, which is connected to one end of a latch-bar 14, having a notch 15 in the other end, which notch is located to be brought into alinement with the locking-bar

4, to be engaged by the same. The latch-bar 14 passes through a transverse guide-aperture 16 in a member 17, which is longitudinally apertured to accommodate a wire lock-bar 18, having a notch 18^a therein, which determines the longitudinal movement of the bar 18.

A signal 19 is located near the track and is arranged to be operated by a wire 20, which is connected at one end thereto, then passes through an aperture 18^b in the wire lock-bar 18, then around a sheave 21, and is connected at its other end to the forward end of the catch-bar 7. A wire 22 is also connected at one end to the signal 19 and at its opposite end to a lever 23 of a switchman's tower 24. A wire 25 is also connected at one end to the lever 23 and at its other end to the wire lock-bar 18. In order to operate the catch-bar 7 in unison with the signal 19, a wire 26 is connected to the head 9 of the bar 7, then passes around a sheave 27, and is connected to the wire 22.

Means for enabling the locking-bar 4 to be drawn back by a passing train is provided in the shape of a curved lever 28, located neighboring the rail 11 and having its free end connected to the lock-bar 4 by means of a wire 29, which passes around a sheave 30.

Suppose the system in the position shown in Fig. 1 of the drawings. Then the signal 19 is at "danger" and the derailer 13 is open. If, now, the leverman in the tower 24 wishes to set the signal 19 at "safety" and close the derailer 13 to give the train the rails 11 12, he would operate a switch-lever (not shown) to close the derailer and then throw the lever 23 over to pull on the wire 25 to operate the wire-lock 18, which would in turn pull on the wire 20 to turn the signal 19 into the position of safety and simultaneously draw the catch-bar 7 forward, thereby bringing the catch 10 into engagement with the end of the locking-bar 4. By the operation of the switch-lever before mentioned in closing the derailer the bar 14 is moved longitudinally and the notch 15 therein brought into alinement with the locking-bar 4, so that when the catch 10 engages the bar 4 it is carried back and engages the switch 15, thereby locking the derailer 13 against all movement. As soon as the bar 4 has been moved far enough to engage the notch 15 the head 9 of the bar 7 will

be engaged by the beveled end 5^a of the guide-rib 5 and the catch 10 disengaged from the bar 4. By the pulling forward of the locking-bar 4 the wire 29 is also pulled to operate the lever 28 and bring it in contact with the rail 11 and in position to be engaged by the wheels of a passing train. The parts are now in the positions shown in Fig. 2, the signal at "safety" and the track ready for the train.

10 If, now, the leverman should become "rattled" and attempt to take the track away from the approaching train, he could operate the lever 23, which would rotate the signal 19, through the medium of the wire 22, into the position of danger and could also retract the catch-bar 7 by means of the wire 26. The positions of the locking-bar 4 and lever 28 would remain unchanged, and if the engineer did not have time to heed the warning signal the track would still be safe and could not be changed by the leverman without his leaving his tower and going to the lever 28. If this is not done, the train would operate the lever 28 to retract the locking-bar 4 and release the bar 14.

In case the signal 19 remains at "safety" until the train passes, the bar 7 would be out of the way of bar 4 and would permit it to be drawn back to its initial position by the operation of the lever 28 by the train.

We do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the spirit of our invention.

35 Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an interlocking switch and signal, the combination of a signal, a derailer, a notched bar connected to said derailer, a locking-bar mounted to be brought into engagement with said notch in said bar, a catch-bar mounted to engage said locking-bar and slide it in one direction, a wire connecting said catch-bar and said signal, substantially as described.

2. In a device of the class described, a swinging derailer, a notched bar connected to said derailer, a curved lever located to be engaged by the wheels of a train, a locking-bar mounted to be brought into engagement

with said notched bar to lock it against all movement, and means connecting said lever and said locking-bar, substantially as described.

3. In a device of the class described, the combination of a curved lever located to be engaged by the wheels of a train, a swinging derailer, a sliding bar connected to said derailer and having a notch therein, a slidingly-mounted locking-bar located to engage said notch to lock said derailer, means connecting said locking-bar and said lever, whereby said locking-bar is disengaged from said notched bar when said lever is operated, and means for operating said locking-lever to engage said notched bar, substantially as described.

4. In a device of the class described, the combination, of a swinging derailer carrying a notched bar, a sliding locking-bar mounted to be brought into engagement with said notched bar to lock said derailer, a lever connected to said locking-bar and located to be engaged by a train to operate said locking-bar to release said derailer, a catch-bar mounted to engage said locking-bar to bring it into engagement with said notched bar, a signal, and means connecting said catch-bar and said signal, substantially as described.

5. In a device of the class described, the combination of a derailer carrying a notched bar, a sliding locking-lever mounted to be brought into engagement with said notched bar to lock said derailer, a lever connected to said locking-bar and located to be engaged by a train to disengage said catch-bar from said notched bar, a catch-bar arranged to engage said locking-bar to operate it to lock said derailer, a signal, means connecting said signal and said catch-bar, a lever, means connecting said latch-bar and said lever, and means connecting said lever and said signal, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

GEORGE W. SPECKMAN.
WILLIAM J. POWERS.

Witnesses:

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